

# **HOW ACCURATE ARE PERCEPTIONS OF SOCIAL STATISTICS ABOUT BLACKS AND WHITES?**

## **EFFECTS OF RACE AND EDUCATION**

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The mental pictures people have of various social groups have important consequences and have often been studied under the rubric of stereotypes. Many studies have found that white respondents see blacks as less intelligent, less dependable, and less hardworking than whites (see, e.g., Bobo and Johnson 2000; Bobo and Kluegel 1991; Bobo, Kluegel, and Smith 1997; Jackman and Senter 1980). Jussim, McCauley, and Lee (1995) have, however, argued that we should not only know the content of these stereotypes but should also empirically investigate their accuracy.

On the issues mentioned above, we know what the public thinks, but we cannot objectively assess the accuracy of their views. However, there are other issues on which there are objective data comparing whites and blacks in the United States. What is lacking is information as to what the public thinks these data show.

The mental pictures on which we focus are perceptions of the relative economic situation and rates of socially undesirable behavior of blacks and whites in the United States. The American public has at least a crude sense

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of some of these black-white differences. Most Americans correctly see blacks as economically poorer than whites (see Bobo and Kluegel 1991). However, these findings do not tell us if people have an accurate sense of the magnitude of such differences.

For example, McCauley (1995, pp. 226–29) found that respondents tended to underestimate the black-white differences in rates of welfare dependence and out-of-wedlock births. However, this was based on a sample of only 64 respondents who may not have been randomly selected. Gilens (1999) states that whites overestimate the proportion of poor people who are black (p. 137), but this does not prove that they overestimate the relationship between race and poverty—this error could come instead from the fact that whites overestimate the proportion of blacks in the American population (see Gilens 1999, p. 138; Nadeau, Niemi, and Levine 1993; Sigelman and Niemi 2001).

In this article, our objectives are to assess (1) the accuracy of people's statistical perceptions of black-white differences in economic situations and socially undesirable behavior, (2) the relationship of the race of the respondent to these statistical perceptions, and (3) the degree to which formal education contributes to accurate knowledge.

We expect that more educated people are more accurate for two reasons. They are more likely to have listened to, or read, sources in which such statistical information is presented. They are also more likely to have retained such information.

## Data

The main data were gathered in 1995, in a random-digit-dial telephone survey of the state of Michigan population carried out by the Survey Research Division of the Institute for Public Policy and Social Research at Michigan State University. Minorities were deliberately oversampled. Respondents who were neither white nor black were eliminated from this analysis, leaving 823 whites and 216 blacks. Various response rates are as follows: response rate (RR4) = 59.3 percent, cooperation rate (COOP4) = 73.1 percent, refusal rate (REF2) = 21.8 percent, and contact rate (CON3) = 96.4 percent. The individual cases were differentially weighted to make the sample more representative of the state population, and these weights were used in the data analysis presented.<sup>1</sup> However, use of the unweighted data would result in only minor changes in the numbers and would change none of the conclusions.

1. Weighting corrected for the greater likelihood of selecting (a) someone in a household with multiple phone lines or (b) the only adult in a single-adult household and also made the sample proportional to the state's population with respect to (c) gender, (d) age, and (e) region of the state. Since we analyzed blacks and whites separately, we did not correct for the oversampling of blacks.

The statistical perception questions were introduced by saying, “Now, we’d like to find out how you think the actual situation of the typical black person or family compares with the situation of the typical white person or family. To help you out, we will give you a recent figure for whites. Please keep that figure in mind. We will then ask you what you think the situation is for blacks.”

The questions were, in this order: (1) “The average income of white families is about \$32,000.<sup>2</sup> What do you think is the average income of black families?” (2) “The average income of white male college graduates is about \$31,000.<sup>3</sup> What do you think is the average income of black male college graduates?” (3) “Out of every 100 white babies born in the United States in the last few years, approximately 22 were born to unwed mothers. Out of every 100 black babies, how many do you think were born to unwed mothers?” (4) “Out of every 100 whites, 9 have incomes below the poverty line. Out of every 100 blacks, how many do you think are living in poverty?” Questions 1, 2, and 4 deal with perceived economic status, with question 2 also controlling for education and gender. Question 3 deals with undesirable behavior. Education was measured as number of years of school completed, with a maximum value of 18 for those with a graduate degree.

## Results

For each of the four statistical perception questions, the Perceived Racial Difference (PRD) is the difference between (a) the respondent’s estimate of the statistic for blacks and (b) the actual statistic for whites provided in the survey. For judging accuracy, the PRD is compared with the Actual Racial Difference (ARD) (see table 1).

### MEAN STATISTICAL PERCEPTIONS BY RACE

We compare the mean PRDs for each race to both the ARD and to the PRDs of the other race. On average, white respondents dramatically underestimated the racial difference in out-of-wedlock births. Their mean Perceived Racial Difference, 16.1 percent, is just one-third of the Actual Racial Difference, 46 percent. Blacks gave a significantly ( $p < .001$ ) higher estimate of the black rate (and hence, the racial difference) than whites did. While the mean estimate

2. The figure presented as the “average income” in this question and the next was actually the median income. However, we used the word “average” on the assumption that most respondents would not understand “median.”

3. We asked about male college graduates, rather than all college graduates, because some women’s earnings are reduced by their decision to work less than full time for family reasons. Such women are especially likely to be white because white women are more likely to be able to afford this option.

**Table 1.** Actual Data about Racial Differences and Means of Statistical Perceptions by Race of Respondent

	Out-of-Wedlock Births (%) <sup>a</sup>	Percent in Poverty <sup>b</sup>	Family Income (\$1,000) <sup>c</sup>	Income of Male College Graduates (\$1,000) <sup>d</sup>
Actual white statistic (AW)	22	9	32	31
Actual black statistic (AB)	68.1	31.3	19.5	24.4
Actual racial difference (=  AB - AW )	46.1	22.3	12.5	6.6
Mean black statistic as perceived (PB) by:				
Whites	38.1	26.9	22.45	28.63
Blacks	49.0	34.3	22.59	25.14
Mean (SD) PRD (= PB - AW) <sup>e</sup> perceived by:				
Whites	16.1*** (15.8)	17.9*** (16.2)	9.41*** (6.27)	2.37*** (4.82)
Blacks	27.0*** (23.1)	25.3 (25.8)	9.55*** (7.26)	5.86* (4.52)

NOTE.—Weighted *N* per cell ranges between 770 and 779 for whites and 203 to 207 for blacks; PRD = perceived racial difference; ARD = actual racial difference; SD = standard deviation.

<sup>a</sup> See U.S. Bureau of the Census 1995, table 94.

<sup>b</sup> See U.S. Bureau of the Census 1995, table 752.

<sup>c</sup> See U.S. Bureau of the Census 1995, table 729.

<sup>d</sup> See U.S. Bureau of the Census 1992. Current Population Reports Series P-60, Consumer Income, table 29, pp. 120 and 124. The white male college graduate income given to respondents was the figure for those aged 25–34. Thus, the correct black male college graduate statistic is for those of the same age group.

<sup>e</sup> For each statistical perception question, the direction of subtraction for both the PRD and the ARD is such that the ARD is positive.

\* The mean PRD of respondents from a racial group differs from the ARD at  $p < .05$ .

\*\*\*  $p < .001$ .

of blacks is higher than that of whites, it also significantly underestimates the ARD.

For family income, the two races gave mean estimates of the PRD that are not significantly different from each other. Both races significantly underestimate the ARD. However, black respondents perceive the racial difference in poverty to be significantly larger ( $p < .001$ ) than white respondents perceived it to be. The mean estimate made by white respondents (17.9 percent) significantly underestimates the ARD (22.3 percent), while the mean estimate by black respondents does not significantly depart from the actual difference.

**Table 2.** Absolute Errors in Statistical Perceptions: Means and Regressions in Which Error Is Predicted by Education and Race (Black)

Dependent Variable: Absolute Error in Estimate of Racial Difference	Mean Absolute Error <sup>a</sup>	Unstandardized Coefficients		Standardized Coefficients	
		Race	Education	Race	Education
Family income (\$1,000)	5.61	-.213	-.393***	-.019	-.196
Male college graduate income (\$1,000)	4.81	-1.527***	-.130**	-.177	-.082
Poverty rate (%)	15.66	6.641***	-.542***	.248	-.111
Out-of-wedlock birth rate (%)	29.92	-5.287***	-.311*	-.151	-.049

NOTE.—Significance levels for standardized coefficients are identical to the significance of the corresponding unstandardized coefficient.

<sup>a</sup> The mean absolute error is taken across all respondents of both races.

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

Whites perceive a lower racial difference in male college graduates' income than blacks do, and the difference between the white and black estimates is highly significant ( $p < .001$ ). Moreover, whites underestimate the actual racial difference substantially and significantly. Blacks also underestimate this racial difference significantly, but their mean PRD is much closer to the actual difference than is the response of whites.

#### EDUCATION AND ACCURACY

We want to see how education is related to the accuracy of an individual's statistical perceptions. We compute the absolute value of the error for each respondent and each statistical perception (i.e., the difference between his or her PRD and the ARD). In table 2 we present regressions in which these absolute errors are predicted by Education and Race. Race is coded so that a positive coefficient indicates greater error for blacks. (The Race-Education interaction was never significant.)

For all four statistical perceptions, the coefficients of Education are negative and significantly different from zero, indicating that the more educated respondents are more accurate. However, the effects of education are quite modest. First, the largest of the standardized coefficients of Education (effect on the error in estimating the Family Income) is only  $-.196$ . Second, the unstandardized coefficients show that increasing education from our sample

mean of 13.7 years to 18 years (the maximum coded value) would reduce the error in estimating any of the Racial Differences (RD) by amounts ranging from 7.8 percent of the actual mean error for Out-of-Wedlock births to 30.1 percent for Family Income.

## Discussion

Very few people misperceived the direction of any racial differences, and few people perceived there to be no difference between the statistic for blacks and the corresponding statistic for whites. (The one exception is that almost half of whites estimated the income of black and white male college graduates to be the same.) On the other hand, on most questions, fewer than 20 percent of each race gave an estimate of the racial difference that is quantitatively close to accurate (between 80 percent and 120 percent of the actual racial difference). This is not surprising, given the findings of Sigelman and Niemi (2001).

Levine and Campbell (1972) have argued that stereotypes tend to exaggerate differences between groups, but this was not what we found. The mean response of whites underestimated the actual difference between races for every single statistical perception variable. Hence, while white respondents recognized that blacks are both disadvantaged relative to whites in economic position and more deviant than whites in certain behaviors, they underestimated the extent to which these differences were true. On all statistics except family income, blacks gave larger estimates of the racial difference than did whites.

Whites are less likely to believe that racial discrimination continues than are blacks (see, e.g., Sigelman and Welch 1991). Thus, it is no surprise that whites give lower estimates of economic inequality between the races.

But given the negative views that many whites have about blacks (see, e.g., Bobo and Johnson 2000; Sniderman and Piazza 1993), how do we account for whites massively underestimating the difference in out-of-wedlock births? Perhaps the actual black rate of out-of-wedlock births, 68 percent, and the corresponding racial difference (46 percent) are far larger than most whites, even those who are negative about blacks, would imagine.

Blacks may give higher estimates of the racial difference in this behavior and in welfare dependence than whites do because (a) blacks may have a greater firsthand familiarity with such black behavior than do whites, (b) blacks may be less afraid of being considered racist for guessing a high rate of such behavior, or (c) perceiving a larger racial difference in undesirable behavior may actually enhance the self-esteem of black respondents, as their self-esteem may be based on comparing themselves to other blacks (see Rosenberg 1979, chap. 4; also see Broman, Jackson, and Neighbors 1989 on the distinction between self-esteem and racial esteem).

As Sniderman and Carmines (1997) show, whites more readily express

negative attitudes toward blacks if attitudes are measured unobtrusively than via direct self-report. Thus, whites may underestimate black undesirable behavior because they desire to avoid appearing antiblack. However, since the statistical perception questions ask about objective facts, they may be less subject to such concerns than are survey questions that ask people to rate the traits of black people or to evaluate racial policies.

Years of education had a surprisingly modest effect on accuracy. Thus, while most people know the direction of these differences, even the well educated generally lack an accurate sense of their size.

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